

In The Claims:

1. A recyclable carpet comprising:
a fiber-reinforced primary backing, said fiber-reinforced primary
backing comprising a glass fabric layer consolidated with an extruded film; and
a plurality of pile elements tufted through said fiber-reinforced
5 primary backing.
2. The recyclable carpet of claim 1, wherein said extruded film
comprises a plurality of glass fibers coupled within a nylon film.
3. The recyclable carpet of claim 2, wherein said nylon film is
selected from the group consisting of a nylon 6 film, a nylon 66 film, and
10 copolymers thereof.
4. The recyclable carpet of claim 1, wherein said fiber-
reinforced primary backing further comprising a second glass fabric layer
consolidated with said glass fabric layer and said extruded film.
5. The recyclable carpet of claim 1, wherein said glass fabric
15 layer comprises:
a first layer formed of a plurality glass fibers, each of said plurality
of glass fibers of said first layer running in a first direction, said first direction
defined relative to a length and a width of the recyclable carpet; and
a second layer of said plurality of glass fibers onto the first layer,
20 each of said plurality of glass fibers running in a second direction, said second
direction also defined relative to said length and said width of the recyclable carpet.
6. The recyclable carpet of claim 5, wherein said first direction
runs in a 0 degree orientation and wherein said second direction runs in a 90 degree
orientation, wherein a 0 degree orientation is defined wherein said plurality of
25 fibers within a respective layer run parallel to said length of the recyclable carpet
and wherein a 90 degree orientation is defined said plurality of fibers within said

respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

7. The recyclable carpet of claim 5, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to said first direction in a -45 orientation.

8. The recyclable carpet of claim 4, wherein said glass fabric layer comprises a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and a second layer of said plurality of glass fibers onto the first layer, each of said plurality of glass fibers of said second layer running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet; and

wherein said second glass fabric layer comprises a third layer formed of a plurality glass fibers, each of said plurality of glass fibers of said third layer running in a third direction, said third direction defined relative to a length and a width of the recyclable carpet; and a fourth layer of said plurality of glass fibers onto the third layer, each of said plurality of glass fibers of said fourth layer running in a fourth direction, said fourth direction also defined relative to said length and said width of the recyclable carpet.

9. The recyclable carpet of claim 8, wherein said first direction and said third direction each run in a 0 degree orientation and wherein said second direction and said fourth direction runs in a 90 degree orientation, wherein a 0 degree orientation is defined as running parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined as running parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

10. The recyclable carpet of claim 8, wherein said first direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree

orientation, wherein a 0 degree orientation is defined wherein said plurality of fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet; and

wherein said third direction runs in a +45 degree orientation and wherein said fourth direction runs perpendicular to said third direction in a -45 orientation, said +45 degree orientation defined wherein said fibers within said respective layer are rotated 45 degrees clockwise with respect to fibers oriented in said 0 degree orientation.

11. A recyclable carpet comprising:
a fiber-reinforced primary backing, said fiber-reinforced primary backing comprising a glass veil consolidated with an extruded film; and
a plurality of pile elements tufted through said fiber-reinforced primary backing.

12. The recyclable carpet of claim 11, wherein said film comprises a plurality of glass fibers coupled within a nylon film.

13. The recyclable carpet of claim 12, wherein said nylon film is selected from the group consisting of a nylon 6 film, a nylon 66 film, and copolymers thereof.

14. The recyclable carpet of claim 11, wherein said fiber-reinforced primary backing further comprising a glass fabric layer consolidated with said glass veil and said extruded film.

15. The recyclable carpet of claim 14, wherein said glass fabric layer comprises:

a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and

a second layer of said plurality of glass fibers onto the first layer, each of said plurality of glass fibers running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet.

16. The recyclable carpet of claim 15, wherein said first
5 direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree orientation, wherein a 0 degree orientation is defined wherein said plurality of fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet
10 and perpendicular to said length of the recyclable carpet.

17. The recyclable carpet of claim 15, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to said first direction in a -45 orientation.

18. A recyclable carpet comprising:
15 a fiber-reinforced primary backing, said fiber-reinforced primary backing comprising a glass mat consolidated with an extruded film, said glass mat comprising a plurality of randomly discrete glass fibers; and
a plurality of pile elements tufted through said fiber-reinforced primary backing.

20 19. The recyclable carpet of claim 18, wherein said film comprises a plurality of glass fibers coupled within a nylon film.

20. The recyclable carpet of claim 19, wherein said nylon film is selected from the group consisting of a nylon 6 film, a nylon 66 film, and copolymers thereof.

25 21. The recyclable carpet of claim 18, wherein said fiber-reinforced primary backing further comprising a glass fabric layer consolidated with said glass veil and said extruded film.

22. The recyclable carpet of claim 21, wherein said glass fabric layer comprises:

a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction
5 defined relative to a length and a width of the recyclable carpet; and

a second layer of said plurality of glass fibers onto the first layer, each of said plurality of glass fibers running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet.

23. The recyclable carpet of claim 22, wherein said first
10 direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree orientation, wherein a 0 degree orientation is defined wherein said plurality of fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet
15 and perpendicular to said length of the recyclable carpet.

24. The recyclable carpet of claim 22, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to said first direction in a -45 orientation.

25. A method for forming a recyclable tufted carpet having
20 improved dimensional stability that reduces skew, bow and wrinkles during manufacture and installation, the method comprising:

forming a fiber-reinforced primary backing, said fiber-reinforced backing including an extruded film, said extruded film comprising a nylon film selected from the group consisting of a nylon 6 film, a nylon 66 film, and
25 copolymers thereof; and

tufting a plurality of pile elements tufted through said fiber-reinforced primary backing.

26. The method of claim 25, wherein said extruded film further comprises a plurality of glass fibers.

27. The method of claim 25, wherein forming a fiber-reinforced primary backing comprises:

5 forming a glass fabric fiber layer, wherein said glass fabric fiber layer comprises a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and a second layer of said plurality of glass fibers onto the first layer, each of said plurality of glass
10 fibers of said second layer running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet;
 coupling a fiber-reinforced extruded film to said glass fabric layer;
 and
 consolidating said fiber-reinforced extruded film to said glass fabric
15 layer.

28. The method of claim 27, wherein said first direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree orientation, wherein a 0 degree orientation is defined wherein said plurality of fibers within a respective layer run parallel to said length of the recyclable carpet
20 and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

29. The method of claim 27, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to
25 said first direction in a -45 orientation.

30. The method of claim 25, wherein forming a fiber-reinforced primary backing comprises:

forming a glass fabric fiber layer, wherein said glass fabric fiber layer comprises a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and a second layer
5 of said plurality of glass fibers onto the first layer, each of said plurality of glass fibers of said second layer running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet;

coupling an extruded film to said glass fabric layer, said extruded film comprising a nylon film selected from the group consisting of a nylon 6 film, a
10 nylon 66 film, and copolymers thereof;

coupling a second glass fiber layer to said fiber-reinforced extruded film such that said fiber-reinforced extruded film is between said first glass fabric layer and said second glass fabric layer, wherein said second glass fabric layer comprises a third layer formed of a plurality glass fibers, each of said plurality of
15 glass fibers of said third layer running in a third direction, said third direction defined relative to a length and a width of the recyclable carpet; and a fourth layer of said plurality of glass fibers onto the third layer, each of said plurality of glass fibers of said fourth layer running in a fourth direction, said fourth direction also defined relative to said length and said width of the recyclable carpet; and

20 melting said extruded film to consolidate said first glass fiber layer to said extruded film and to said second glass fiber layer.

31. The method of claim 30, wherein said first direction and said third direction each run in a 0 degree orientation and wherein said second direction and said fourth direction runs in a 90 degree orientation, wherein a 0 degree
25 orientation is defined as running parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined as running parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

32. The method of claim 30, wherein said first direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree
30 orientation, wherein a 0 degree orientation is defined wherein said plurality of

fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet; and

5 wherein said third direction runs in a +45 degree orientation and wherein said fourth direction runs perpendicular to said third direction in a -45 orientation, said +45 degree orientation defined wherein said fibers within said respective layer are rotated 45 degrees clockwise with respect to fibers oriented in said 0 degree orientation.

10 33. A method for forming a recyclable tufted carpet having improved dimensional stability that reduces skew, bow and wrinkles during manufacture and installation, the method comprising:

 forming a glass fiber veil;

 coupling an extruded film to said glass fiber veil, said extruded film
15 comprising a nylon film selected from the group consisting of a nylon 6 film, a nylon 66 film, and copolymers thereof; and

 consolidating said extruded film to said glass fiber veil to form a fiber-reinforced primary backing; and

 tufting a plurality of pile elements tufted through fiber-reinforced
20 primary backing.

 34. The method of claim 33, wherein said extruded film further comprises a plurality of glass fibers.

 35. The method of claim 33 further comprising:

 forming a glass fabric fiber layer, wherein said glass fabric fiber
25 layer comprises a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and a second layer of said plurality of glass fibers onto the first layer, each of said plurality of glass

fibers of said second layer running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet;

coupling said glass fiber fabric layer to said extruded film such that said extruded film is between said glass fiber veil and said glass fiber fabric layer;

5 and

consolidating said fiber-reinforced film to said glass fiber veil and to said glass fiber fabric layer to form a fiber-reinforced primary backing.

36. The method of claim 35, wherein said first direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree orientation, wherein a 0 degree orientation is defined wherein said plurality of
10 fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

15 37. The method of claim 35, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to said first direction in a -45 orientation.

38. A method for forming a recyclable tufted carpet having improved dimensional stability that reduces skew, bow and wrinkles during
20 manufacture and installation, the method comprising:

forming a glass fiber veil;

tufting a plurality of pile elements tufted through glass fiber veil;

coupling an extruded film to said glass fabric veil, said extruded film comprising a nylon film selected from the group consisting of a nylon 6 film, a
25 nylon 66 film, and copolymers thereof; and

consolidating said extruded film to said glass fiber veil.

39. The method of claim 38, wherein said extruded film further comprises a plurality of glass fibers.

40. The method of claim 38 further comprising:

forming a glass fabric fiber layer, wherein said glass fabric fiber layer comprises a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and a second layer of said plurality of glass fibers onto the first layer, each of said plurality of glass fibers of said second layer running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet;

coupling said glass fiber fabric layer to said extruded film such that said extruded film is between said glass fiber veil and said glass fiber fabric layer; and

consolidating said fiber-reinforced film to said glass fiber veil and to said glass fiber fabric layer to form a fiber-reinforced primary backing.

41. The method of claim 40, wherein said first direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree orientation, wherein a 0 degree orientation is defined wherein said plurality of fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

42. The method of claim 40, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to said first direction in a -45 orientation.

43. A method for forming a recyclable tufted carpet having improved dimensional stability that reduces skew, bow and wrinkles during manufacture and installation, the method comprising:

forming a glass fiber mat, said glass fiber mat comprising a plurality of discrete randomly oriented glass fibers;

coupling an extruded film to said glass fiber mat, said extruded film comprising a nylon film selected from the group consisting of a nylon 6 film, a nylon 66 film, and copolymers thereof; and

consolidating said extruded film to said glass fiber mat to form a
5 fiber-reinforced primary backing; and

tufting a plurality of pile elements tufted through fiber-reinforced primary backing.

44. The method of claim 43, wherein said extruded film further comprises a plurality of glass fibers.

10 45. The method of claim 43 further comprising:

forming a glass fabric fiber layer, wherein said glass fabric fiber layer comprises a first layer formed of a plurality glass fibers, each of said plurality of glass fibers of said first layer running in a first direction, said first direction defined relative to a length and a width of the recyclable carpet; and a second layer
15 of said plurality of glass fibers onto the first layer, each of said plurality of glass fibers of said second layer running in a second direction, said second direction also defined relative to said length and said width of the recyclable carpet;

coupling said glass fiber fabric layer to said fiber-reinforced extruded film such that said fiber-reinforced extruded film is between said glass
20 fiber mat and said glass fiber fabric layer; and

consolidating said fiber-reinforced film to said glass fiber veil and to said glass fiber fabric layer to form a fiber-reinforced primary backing.

46. The method of claim 45, wherein said first direction runs in a 0 degree orientation and wherein said second direction runs in a 90 degree
25 orientation, wherein a 0 degree orientation is defined wherein said plurality of fibers within a respective layer run parallel to said length of the recyclable carpet and wherein a 90 degree orientation is defined said plurality of fibers within said respective layer run parallel to said width of the recyclable carpet and perpendicular to said length of the recyclable carpet.

47. The method of claim 45, wherein said first direction runs in a +45 degree orientation and wherein said second direction runs perpendicular to said first direction in a -45 orientation.

5 48. A fiber-reinforced primary backing comprising:
a glass fabric layer; and
an extruded film consolidated with said glass fabric layer.

49. The primary backing of claim 48, wherein said extruded film comprises a nylon film, said nylon film is selected from the group consisting of a nylon 6 film, a nylon 66 film, and copolymers thereof.

10 50. The primary backing of claim 49, wherein said extruded film further comprises a plurality of glass fibers.

51. The primary backing of claim 48, wherein said fiber-reinforced primary backing further comprising a second glass fabric layer consolidated with said glass fabric layer and said extruded film.

15 52. The primary backing of claim 48, wherein said glass fabric layer comprises a 0/90 oriented glass fabric layer.

53. The primary backing of claim 48, wherein said glass fabric layer comprises a +45/-45 oriented glass fabric layer.

20 54. The primary backing of claim 51, wherein said second glass fabric layer comprises a 0/90 oriented second glass fabric layer.

55. The primary backing of claim 51, wherein said second glass fabric layer comprises a +45/-45 oriented second glass fabric layer.

56. A fiber-reinforced primary backing comprising:
a glass veil layer; and

an extruded film consolidated with said glass veil layer.

57. The primary backing of claim 56, wherein said extruded film comprises a nylon film, said nylon film is selected from the group consisting of a nylon 6 film, a nylon 66 film, and copolymers thereof.

5 58. The primary backing of claim 57, wherein said extruded film further comprises a plurality of glass fibers.

59. The primary backing of claim 56, wherein said fiber-reinforced primary backing further comprising a glass fabric layer consolidated with said glass veil layer and said extruded film.

10 60. The primary backing of claim 59, wherein said glass fabric layer comprises a 0/90 oriented glass fabric layer.

61. The primary backing of claim 59, wherein said glass fabric layer comprises a +45/-45 oriented glass fabric layer.

15 62. A fiber-reinforced primary backing comprising:
a glass mat layer, said glass mat layer comprising a plurality of discrete random glass fibers; and
an extruded film consolidated with said glass mat layer.

63. The primary backing of claim 62, wherein said extruded film comprises a nylon film, said nylon film is selected from the group consisting of a
20 nylon 6 film, a nylon 66 film, and copolymers thereof.

64. The primary backing of claim 63, wherein said extruded film further comprises a plurality of glass fibers.

65. The primary backing of claim 62, wherein said fiber-reinforced primary backing further comprising a glass fabric layer consolidated
25 with said glass veil layer and said extruded film.

66. The primary backing of claim 65, wherein said glass fabric layer comprises a 0/90 oriented second glass fabric layer.

67. The primary backing of claim 65, wherein said glass fabric layer comprises a +45/-45 oriented second glass fabric layer.